No. 9800328

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Paragon Seed, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE , OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 2, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

LETTUCE

'Beacon'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this eighth day of October, in the year two thousand and four.

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

REPRODUCE LOCALLY. *Include form number and date on all reproductions.* FORM APPROVED - OMB NO. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE DIVISION - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a).

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) *(as it is to appear on the Certificate)*
Paragon Seed, Inc.

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER
AW84

3. VARIETY NAME
Beacon

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*
507 Abbott Street
Salinas, California 93901

5. TELEPHONE *(include area code)*
408 ~~831~~-753-2100

6. FAX *(include area code)*
408 ~~831~~-753-1470

FOR OFFICIAL USE ONLY

PVPO NUMBER
199602328

FILING DATE
June 25, 1996

FEES RECEIVED
FILING AND EXAMINATION FEE: $ 2450.00
DATE 6/25/1996
CERTIFICATION FEE: $ 432.00
DATE 9/13/2004

7. GENUS AND SPECIES NAME
Lactuca sativa L.

8. FAMILY NAME *(Botanical)*
Compositae

9. CROP KIND NAME *(Common name)*
Lettuce Iceberg/Crisphead type

10. IF THE APPLICANT NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION *(corporation, partnership, association, etc.) (Common name)*
Corporation

11. IF INCORPORATED, GIVE STATE OF INCORPORATION
California

12. DATE OF INCORPORATION
March 07, 1994

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS
Victor Heintzberger
P.O. Box 1906
Salinas, California 93902-1906

14. TELEPHONE *(include area code)*
408 ~~831~~-753-2100

15. FAX *(include area code)*
408 ~~831~~-753-1470

16. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED *(Follow instructions on reverse)*

a. ☒ Exhibit A. Origin and Breeding History of the Variety
b. ☒ Exhibit B. Statement of Distinctness
c. ☒ Exhibit C. Objective Description of the Variety
d. ☒ Exhibit D. Additional Description of the Variety
e. ☒ Exhibit E. Statement of the Basis of the Applicant's Ownership
f. ☒ Voucher Sample *(2,500 viable untreated seeds or, for tuber propagated varieties verification that tissue culture will be deposited and maintained in a public repository)*
g. ☒ Filing and Examination Fee ($2,450), made payable to "Treasurer of the United States" *(Mail to PVPO)*

17. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY, AS A CLASS OF CERTIFIED SEED? *(See Section 83(a) of the Plant Variety Protection Act)*
☐ YES *(If "yes," answer items 18 and 19 below)* ☒ NO *(If "no," go to item 20)*

18. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☐ YES ☐ NO

19. IF "YES" TO ITEM 18, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

20. HAS THE VARIETY OR A HYBRID PRODUCED FROM THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES?
☒ YES *(If "yes," give names of countries and dates)* ☐ NO
California, U.S.A. Date of first sale : June 28, 1997

21. The applicant(s) declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned applicant(s) is(are) the owner(s) of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Applicant(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT *(Owner(s))*		SIGNATURE OF APPLICANT *(Owner(s))*	
Victor Heintzberger			
NAME *(Please print or type)*		NAME *(Please print or type)*	
VICTOR HEINTZBERGER			
CAPACITY OR TITLE	DATE	CAPACITY OR TITLE	DATE
PRESIDENT	6-24-96		

SD-470 (04-95) *(Previous editions are to be destroyed)* *(See reverse for instructions and information collection burden statement)*

Exhibit A

9800328

Beacon Breeding History

9800328

The objective of this crossing project was to develop a vanguard type crisphead lettuce cultivar which would produce large, compact heads under warmer than normal growing conditions, and be free from tipburn and rib discoloration. Selection criteria included but was not limited to :

1. large, compact head size
2. Low core height, bolt tolerance
3. free of physiological disorders; tipburn, rib discoloration
4. determinate heading and uniformity of type
5. vanguard type

Summertime was selected as the mother plant for its sure heading character, bolt tolerance, and resistance to rib discoloration and tipburn A description of Summertime can be found in HortScience 25(11):1453-1454, 1990. Seed color of Summertime is black. Winterset was selected as the pollen parent for its bolt tolerance, vanguard type, resistance to Lettuce Mosaic Virus, and sure heading character. Seed color of Winterset is white. Winterset was released in 1984 by the U.S.D.A./A.R.S., Salinas, California.

Beacon originated from a hand pollinated cross between the crisphead lettuce varieties Summertime (paragon acc# 017) and Winterset (U.S.D.A.). The cross was made near Corcoran, California in July of 1994 using the technique outlined by Ryder and Johnson in "Mist Depollination of Lettuce Flowers", published in HortScience, Vol. 9(6), 1974.

F_1 seed was removed from the maternal plant (designation s-01) in August, 1994, and was transferred to Salinas, California for planting in the greenhouse. F_1 seed was germinated in petrie dishes, and twenty F_1 seedlings were transferred to one gallon pots filled with standard potting soil for reproduction in the greenhouse. The F_1 seedlings carried the cross designation "AW". Twelve F_2 plants were harvested in early April of 1995. F_2 seed was again germinated in petrie dishes to overcome dormancy, and seedlings from each "AW" line were transferred to Corcoran, California in early May of 1995 for reproduction. Each plant was observed in the seed production field for leaf type segregation, early bolt tolerance, tipburn, rib discoloration, and style of heading.

X

2

Exhibit A

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Beacon Breeding History

Only plants with strong heading characteristics, vanguard leaf type, slow seed stem elongation, and freedom from tipburn and rib discoloration were allowed to produce seed. In early September of 1995, seed was harvested from F_3 lines and designated as follows :

line	selections	seed color	
AW-1-4	1-13, Bal		all white seed
AW-1-Bal	1-5,Bal	1-3 black seed	4,5 white seed
AW-8-4	1-5,Bal		1-5 white seed
AW-9-Bal	1-5,Bal		1-5 white seed

Concurrent to the production of seed near Corcoran, California, the AW lines were planted for observation in a fall field trial near Huron, California. This trial was planted in a commercial lettuce field on August 12, 1995. The four lines AW-1-4, AW-1-Bal, AW-8-4, and AW-9-Bal were evaluated on October 11, 1995. The line AW-8-4 exhibited plants very desirable heading, smooth butt appearance, and good bolt tolerance. Leaf margin incision was intermediate between the two parental varieties. Head size was comparable to the field planting, Zenith.

Twenty eight of the F_3 selections from the four AW families were planted for evaluation in Yuma, Arizona in the following trials :

Ranch	*Area*	*germ date*	*observation*	*Field seed*
Dunn 932	Yuma, Arizona	09-13-95	11-27-95	Monarch
McVey 2	Somerton, Arizona	09-14-95	11-26-95	Raider
Gila 601	Yuma, Arizona	09-20-95	12-04-95	Jupiter

The AW-8-4 family of selections scored highest in all trials, exhibiting large, round head size, large frame size when compared to field varieties and industry standards, slow bolt character and free from tipburn and rib discoloration. Selections with extended cores, elongated heads, heads with poor head protection or "frilled" type leaf were eliminated in this trial.

1

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Exhibit A

Beacon Breeding History

9800328

In April of 1996, the following breeding lines were selected for seed increase near Corcoran, California :

line
AW-1-4-G1
AW-1-4-G3
AW-1-4-5
AW-1-4-10
AW-8-4-1
AW-8-4-2
AW-8-4-3
AW-8-4-5
AW-8-4-Bal

Also included in the 1996 commercial seed production field was a small experimental plot designated AW84, of which approximately twenty pounds of seed was produced of the composite AW-8-4 (2,3,5). This seed was to be used for trials in the fall of 1996 in Yuma, Arizona and the Imperial Valley of California for a preliminary determination of commercial feasibility for the line.

Seed of the two selections AW-1-4-G1 and AW-1-4-G3 were greenhouse produced in the spring of 1996, and were not included in 1995 trials in Arizona. They were included in the Corcoran, California seed multiplication program as a blind increase to move one generation forward. Concurrent with the production in the San Joaquin Valley during the summer of 1996, breeder trials were planted and evaluated in the Salinas Valley as follows :

Ranch	*Area*	*germ date*	*observation*	*Field seed*
Tannehill	King City, Ca.	05-20-98	07-29-96	Gabilan
Hook	Greenfield, Ca.	05-30-96	08-09-96	Gabilan
Ragus 206	King City, Ca.	06-04-96	08-17-96	Gabilan
Marsella	Gilroy, Ca.	06-13-96	08-12-96	Raider
Cherry Orchard	San Ardo, Ca.	07-09-96	09-10-96	Gabilan

Exhibit A

Beacon Breeding History 9800328

In several trials, the AW-1-4-G lines appeared susceptible to downy mildew. The strain of Downy Mildew was not identified. The AW-8-4 selections continued to show promise at this stage, head size was as large or larger than field varieties, bolt tolerance was very good, and defects were noted to be equal to or less than noted in check varieties. When compared to Raider, AW was consistently larger in head size with better head conformation. Beacon also appeared to have better bolt tolerance than Raider and Montemar, more similar to the variety Gabilan. The color of Beacon is intermediate between Summertime and Winterset. Beacon exhibits a high level of heading under conditions which are warmer than normal, whereas Fallgreen and Gilaben plants tend to show irregular folding and non heading characteristics. Based on the 1996 observations of trials in the Salinas Valley, seed was selectively harvested in September of 1996 from the seed field near Corcoran, California as follows :

line	selections	seed color
AW-1-4-G1	Mass	white
AW-1-4-G3	Mass	white
AW-1-4-5	1-5, Mass	white
AW-1-4-10	1-5, Mass	white
AW-8-4-1	1-10, Mass	white
AW-8-4-2	1-10, Mass	white
AW-8-4-3	1-10, Mass	white
AW-8-4-5	1-10, Mass	white
AW-8-4-Bal	1-10, Mass	white

Also, approximately twenty pounds of seed of the experimental variety AW84 was harvested near Corcoran, California, in September of 1996, and transferred to Salinas, California for processing. At this time it appeared that the AW84 line had commercial potential, and expanded trials for Yuma were planned to determine what areas and time slots the variety would be best adapted. The decision was also made to send stock seed to Australia for multiplication. This seed was reproduced under proprietary contract in Griffith, New South Wales, Australia, and returned to the United States in March, 1997.

A

Exhibit A

Beacon Breeding History

9800328

In the fall of 1996, extensive trials were conducted in Yuma, Arizona where breeding lines were again evaluated for uniformity to type, uniformity of heading, bolt tolerance, and commercial desirability. Results were positive and showed that AW84 was unique in character, distinguishable from all other varieties currently under production, and offered commercial growers a high quality product. Trials again confirmed that AW-8-4-5 selections were very uniform for horticultural type, and produced the largest head size. The AW-8-4-2 selections were also very uniform to type, but were slightly smaller in head size which made it less desirable to commercial lettuce producers.

In April of 1997, Paragon commenced production of its 1997 seed crop near Corcoran, California. In addition to the reproduction of the advanced AW84 breeding lines, the second crop of AW84 was seeded. Stock seed for this crop was the superior line identified in Yuma, Arizona trials as AW-8-4-5-Bal w/s.

In June of 1997, the crop was carefully rogued and determined to be stable and uniform to type.

The following breeding lines were advanced in the research plot of this field as follows :

line	selections	seed color
AW-8-4-2-3	1-5, Bal	white seed
AW-8-4-2-4	1-5, Bal	white seed
AW-8-4-2-7	1-5, Bal	white seed
AW-8-4-2-7	1-5, Bal	white seed
AW-8-4-2-9	1-5, Bal	white seed
AW-8-4-5-1	1-5, Bal	white seed
AW-8-4-5-2	1-5, Bal	white seed
AW-8-4-5-7	1-5, Bal	white seed
AW-8-4-5-Bal	1-5, Bal	white seed

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Exhibit A

Beacon Breeding History

In the summer of 1997, 1996 individual plant selections of the superior Yuma lines were evaluated in the southern Salinas Valley near King City.

Ranch	*Area*	*germ date*	*observation*	*Field seed*
Tannehill	King City, Ca.	04-21-97	06-30-97	Gabilan
Hospital	Gilroy, Ca.	05-15-97	07-18-97	Maverick
Hansen	Gilroy, Ca.	05-19-97	07-21-97	Maverick
Ragus	King City, Ca.	05-22-97	07-24-97	Gabilan
Rio	King City, Ca.	05-23-97	07-26-97	Fallgreen
Lower Zabala	Greenfield, Ca.	05-23-97	07-27-97	Diamond
Young Ranch	Gilroy, Ca.	05-28-97	07-28-97	Maverick
Rio	King City, Ca.	06-10-97	08-14-97	Fallgreen
Ragus	King City, Ca.	06-20-97	08-28-97	Gabilan
Goshen	Gilroy, Ca.	06-24-97	09-02-97	Maverick II
Willoughby	San Juan Bautista	06-27-97	08-29-97	Montemar
Tannehill	King City, Ca.	07-03-97	09-10-97	Gabilan
Tannehill	King City, Ca.	07-09-97	09-15-97	Gabilan

The name Beacon was cleared by the U.S.D.A. on April 02, 1997.

Based on the exceptional results of extensive testing and trials of the experimental line AW84, the line was officially named Beacon and the first seed of the variety was sold on June 28, 1997.

Beacon has breen reproduced and judged stable for the past three generations. Variety Beacon is uniform for all traits as described in *Exhibit C (Objective Description of Variety).* Beacon shows no variants other than what would normally be expected due to environment.

Exhibit B

Beacon Novelty Statement

Beacon is most similar to the lettuce varieties Raider and Niner.

Beacon is most similar to the variety Raider, however, the seed color of Beacon is white (silver) whereas the seed color of Raider is black.

Beacon is most similar to Niner, however, at the same level of maturity (solidity x = 3.04 vs. x=3.06), head size of Beacon is larger (x=753 grams vs. 709 grams), and core height of Beacon is shorter (x=1.0 inch vs. x=1.1 inch). Also note the Application for Niner was listed as "Abandoned, Withdrawn, Denied or Ineligible for protection" as described in the Plant Variety Protection Office Official Journal, Volume 26, No.1 /January – March31, 1998.

Unlike most "hot weather" black seeded "vanguard" type crisphead lettuce varieties such as Fallgreen, Raider, and Gilaben, seed color of Beacon is white.

Beacon differs from the parent varieties as follows:

Summertime is not adapted to summer production in the Salinas Valley of California as it does not make commercial weight or size. Statistical data is not available at this time as the variety was observed only in small research plots for comparative purposes. The variety was selected for the breeding program for bolt tolerance and sure heading character.

Beacon is easily distinguished from the parent Summertime by;

1. Adaptation to summer production in the Salinas Valley of California, fall production in the Huron/Bakersfield area of the Central Valley of California, and early fall harvest in the desert southwestern production areas of California and Arizona.

2. Seed Color of Summertime is Black, whereas, the seed color of Beacon is white.

Beacon can be distinguished from the parent Winterset by;

1. Winterset will not form heads planted in the heat of the southern Salinas Valley summer, fall San Joaquin Valley of California (August plantings), or in the early fall harvest period of November (September plantings) in the desert southwest. Winterset is best adapted for spring harvest, growing from cooler to warmer weather with increasing day length.

2 Winterset is resistant to Lettuce Mosaic Virus, whereas, Beacon is susceptible to Lettuce Mosaic Virus.

Exhibit B:

The items below were removed from the Exhibit D and placed in the Exhibit B to support the distinctness claim of 'Beacon'.

1 Cross section diagram of a lettuce head indicating position of Head, Wrapper Leaf, Core height, and Core Diameter.

2 Photograph and description of Solidity Scoring System

5 October, 2003 Huron, California
Beacon leaf color is slightly darker green than Niner. Niner has slightly more yellow color in the leaf. Using the Royal Horticultural Society Colour Chart, the following observations were made:

Beacon	139A
Niner	141A
Lighthouse	141B

6 October, 2003 Huron, California
Example of using the Royal Horticultural Colour Charts to determine leaf color.

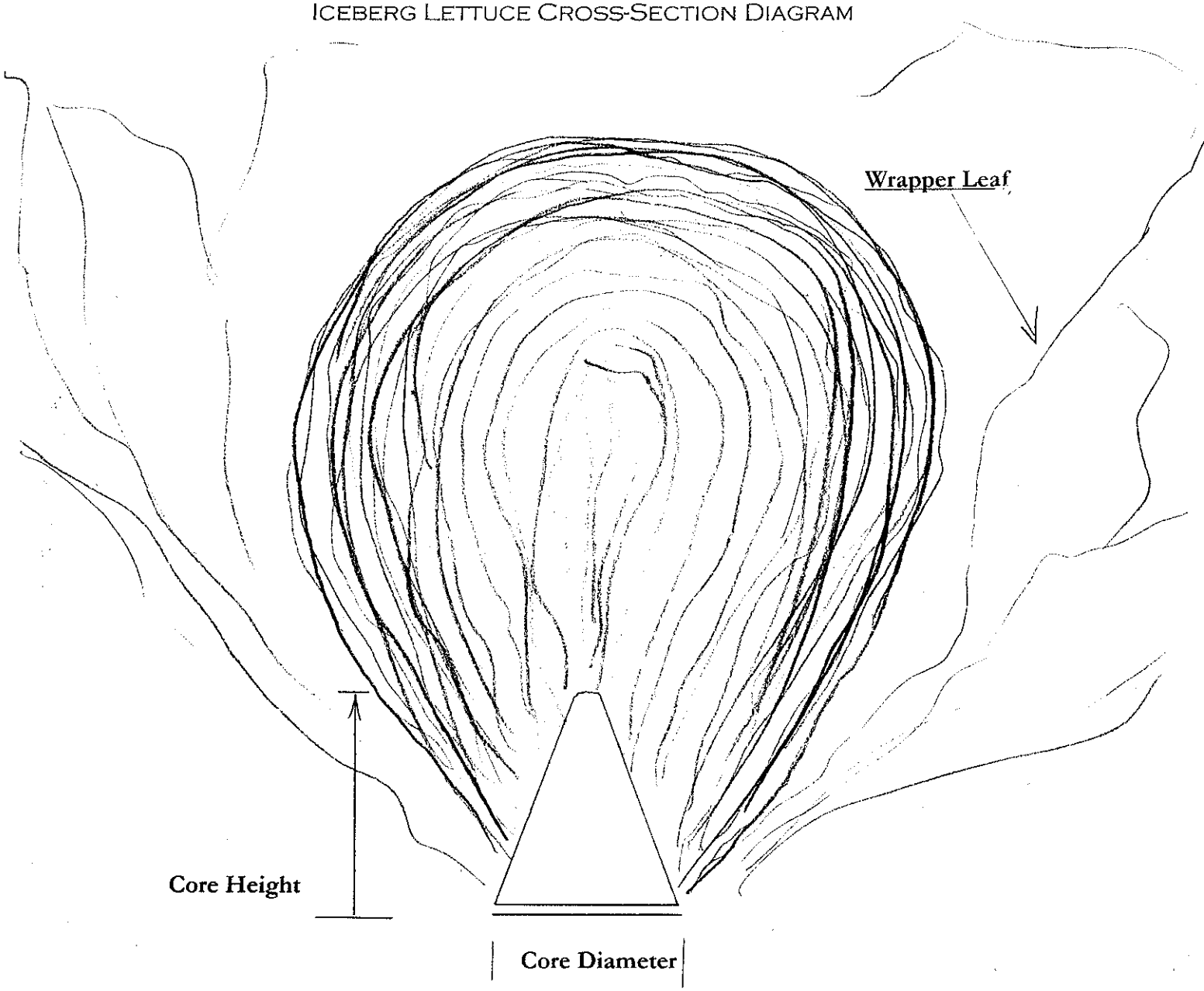
7 October, 2003 Huron, California
Cross section photo of Beacon and Niner. Niner core height is higher than Beacon.

24 November, 2003 Wellton, Arizona
Measurements Beacon vs. Niner

32 December 10, 2003 Wellton, Arizona
Measurements Beacon vs. Niner

PARAGON SEED, INC.

ICEBERG LETTUCE CROSS-SECTION DIAGRAM



Solidity Scale

1: *very soft, 50 – 80 % air pocket in head. Lightweight, immature*

3: *firm, slight give when squeezed between hands*
Optimum market stage lettuce, thick leaf texture

5: *Very firm to hard heads, occasional cracked ribs*
Lettuce at this maturity is generally bitter in taste, and thin in texture

Paragon Seed, Inc.

ICEBERG LETTUCE SOLIDITY

SOLIDITY SCORING SYSTEM

1 = SOFT HEAD, NOT COMMERCIALLY ACCEPTABLE
HIGH PERCENT INTERIOR OF HEAD IS AIRSPACE

3 = FIRM HEAD, SLIGHT GIVE WHEN SQUEEZED BETWEEN HANDS. MARKET STAGE.
THICK LEAF TEXTURE, CREAMY YELLOW INTERIOR COLOR,, DARKER GREEN OUTER LEAVES. GOOD CONTRAST.

5 = HARD DENSE HEAD. OCCASSIONAL CRACKED RIBS
GENERALLY BITTER IN TASTE AND LEAVES THIN AND PALE

9800328

PARAGON SEED COMPANY

P.O. Box 1906 Salinas, Ca. 93902 408-753-2100

Niner vs Beacon

Grown on Diener Ranch, Huron, Ca Harvest date-: October 30,1997

	Niner	Beacon	Niner	Beacon	Niner	Beacon	Niner	Beacon
	Solidity	Solidity	Circum	Circum	Weight	Weight	Core Ht	Core Ht
Count	24	24	24	24	24	24	24	24
Sum	73.0	73.5	1,045.6	1,109.7	17,025.0	18,075.0	26.50	24.00
Mean	3.04	3.06	43.57	46.24	709.38	753.13	1.10	1.00
Maximum Value	3.5	3.5	45.0	48.0	800.0	825.0	1.50	1.00
Minimum Value	2.5	3.0	42.0	44.0	625.0	675.0	1.00	1.00
Variance	0.06	0.03	0.70	0.82	2,489.81	1,593.07	0.04	0.00
Std.Dev	0.25	0.17	0.84	0.91	49.90	39.91	0.21	0.00
Joint Variance	*****	0.05	*****	0.76	*****	2,041.44	*****	0.02
Jt Deg of Freedom	*****	46	*****	46	*****	46	*****	46.00
t-Test Parameter	*****	0.307	*****	10.606	*****	3.354	*****	2.46
Level of Significance	*****	0.7599	*****	0.0000	*****	0.0016	*****	0.0177
Confidence Level %	*****	24.012	*****	100.000	*****	99.840	*****	98.23
	1 to 5	1 to 5	CM'S	CM'S	Grams	Grams	Inches	Inches
MEASUREMENTS	3.0	3.0	43.6	46.2	700	700	1.00	1.00
FOR	3.0	3.0	44.0	46.0	675	800	1.00	1.00
SAMPLES	3.0	3.0	43.0	45.5	650	775	1.00	1.00
	2.5	3.0	42.0	44.0	650	750	1.00	1.00
Solidity measured	3.0	3.0	43.0	45.0	700	800	1.00	1.00
on a scale of	3.0	3.0	42.5	47.0	675	825	1.50	1.00
1 to 5	3.0	3.0	44.0	48.0	650	750	1.00	1.00
	3.0	3.0	43.0	46.0	625	700	1.00	1.00
Note:	3.5	3.0	44.0	46.0	725	725	1.00	1.00
The Level of	3.0	3.5	43.0	47.0	700	750	1.50	1.00
Significance is	3.5	3.0	45.0	47.0	750	725	1.00	1.00
determined by	3.0	3.0	43.0	47.0	725	750	1.00	1.00
using Excel 5's	3.0	3.0	43.0	46.0	750	750	1.00	1.00
2-tail type 2	2.5	3.0	42.0	45.0	675	675	1.00	1.00
built in T-test	3.0	3.0	44.0	46.0	750	725	1.50	1.00
function directly	3.0	3.0	45.0	47.0	800	750	1.00	1.00
over the	3.0	3.0	44.0	45.0	775	725	1.00	1.00
ranges of data.	3.0	3.0	45.0	46.0	675	750	1.00	1.00
	3.0	3.5	43.0	47.0	750	825	1.00	1.00
	3.5	3.0	44.0	47.0	775	750	1.50	1.00
	3.0	3.0	44.0	47.0	750	725	1.00	1.00
	3.0	3.0	43.5	46.0	625	750	1.00	1.00
	3.5	3.5	44.0	47.0	725	825	1.50	1.00
	3.0	3.0	44.0	46.0	750	775	1.00	1.00

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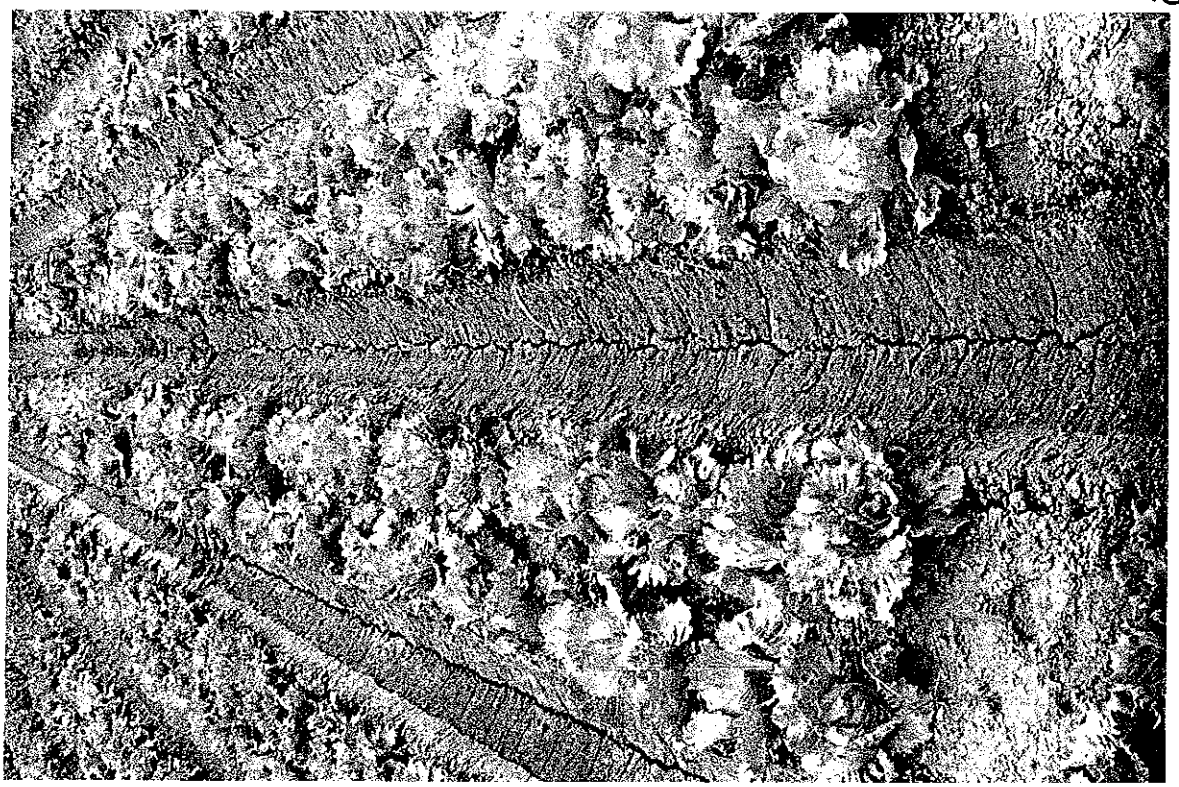
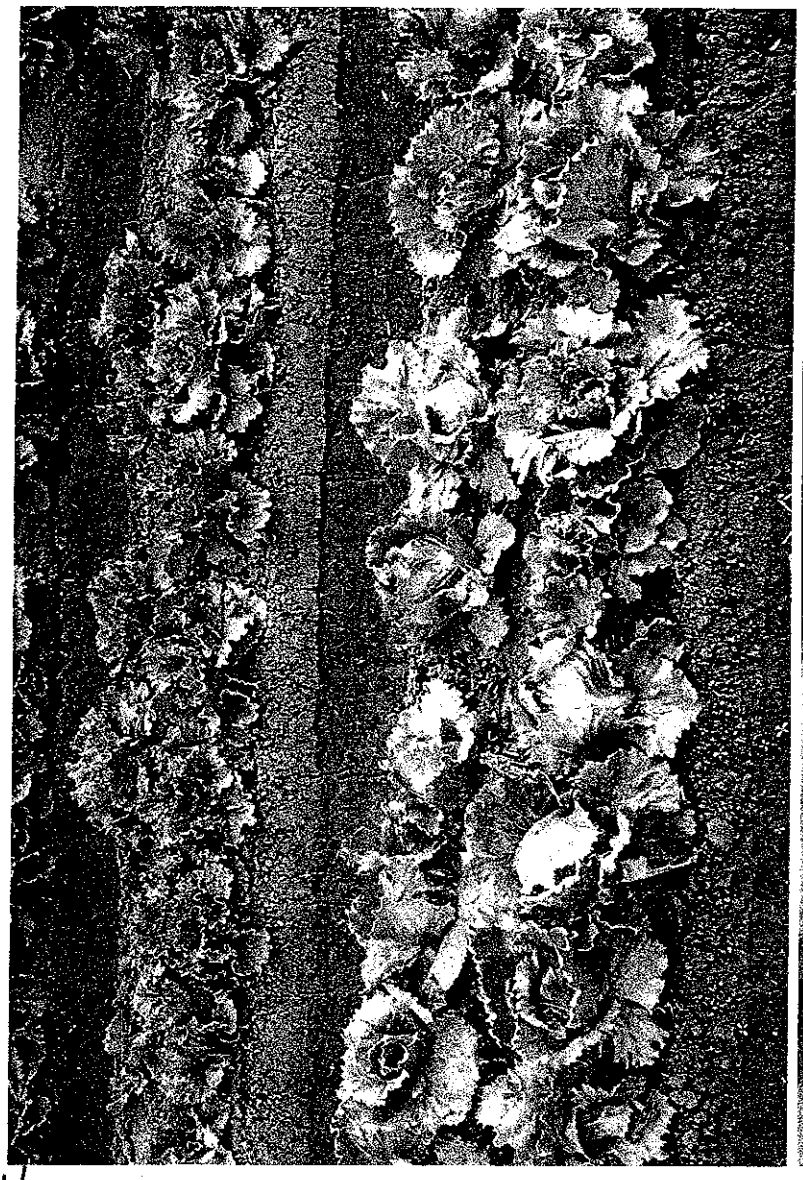
9800328

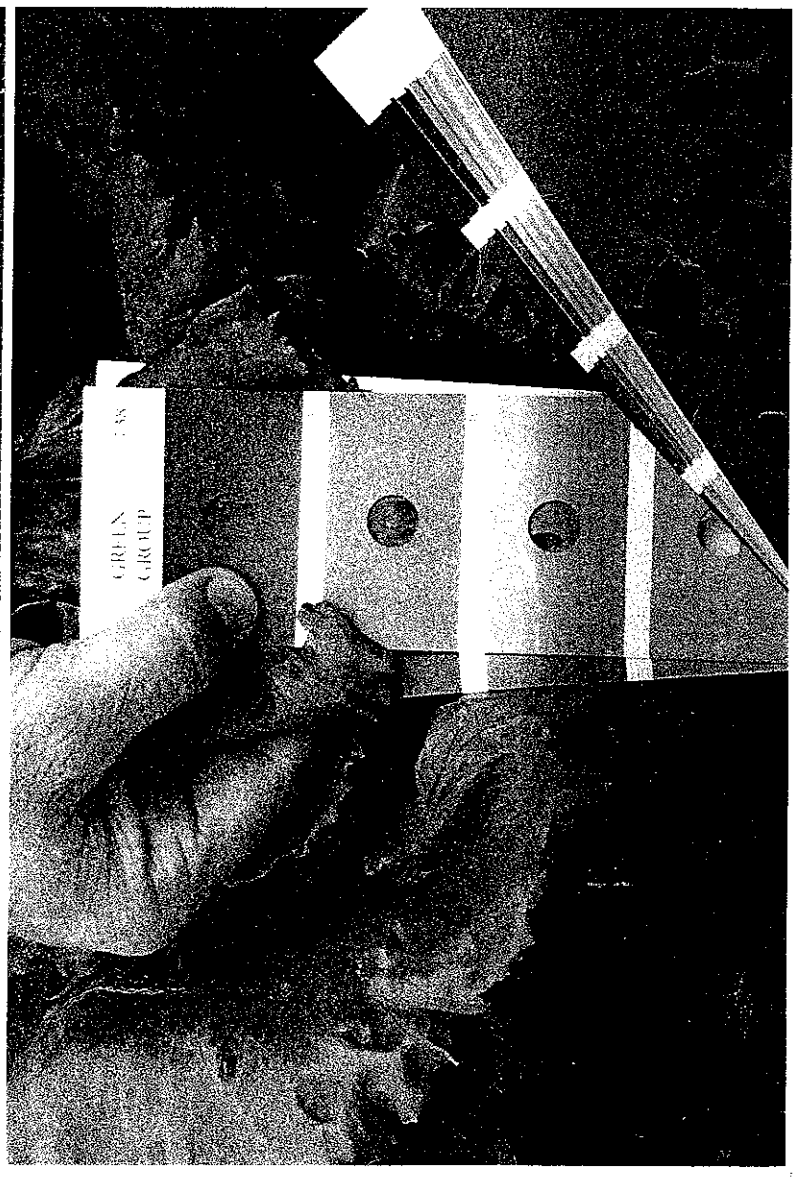
Paragon Seed, Inc. Huron, California October, 2003

BEACON

NINER






GRELA
GROUP

Paragon Seed, Inc. Huron, California October, 2003

BEACON

NINER

PARAGON SEED COMPANY

P.O. Box 1906 Salinas, Ca. 93902 831-753-2100

Beacon vs Niner

Brosey Ranch Wellton, Arizona **Harvest date: November 21, 2003**

	Beacon	Niner	Beacon	Niner	Beacon	Niner	Beacon	Niner
	Solidity	Solidity	Circum	Circum	Weight	Weight	Core Ht	Core Ht
Count	12	12	12	12	12	12	12	12
Sum	29.5	23.5	615.0	561.0	7,080.0	6,430.0	15.50	24.00
Mean	2.46	1.96	51.25	46.75	590.00	535.83	1.29	2.00
Maximum Value	3.0	3.5	55.0	53.0	760.0	960.0	2.00	4.00
Minimum Value	2.0	1.0	47.0	42.0	350.0	290.0	1.00	1.00
Variance	0.20	0.93	6.25	12.02	12,945.45	49,790.15	0.16	1.18
Std.Dev	0.45	0.96	2.50	3.47	113.78	223.14	0.40	1.09
Joint Variance	*****	0.57	*****	9.14	*****	31,367.80	*****	0.67
Jt Deg of Freedom	*****	22	*****	22	*****	22	*****	22.00
t-Test Parameter	*****	1.628	*****	3.647	*****	0.749	*****	2.12
Level of Significance	*****	.1179	*****	.0014	*****	.4617	*****	.0455
Confidence Level %	*****	88.214	*****	99.858	*****	53.829	*****	95.45
	1-5	1-5	Cm's	Cm's	Grams	Grams	Inches	Inches
MEASUREMENTS FOR SAMPLES	3.0	1.0	49.5	46.0	540	350	1.00	1.00
	3.0	3.5	49.0	53.0	580	960	1.00	3.00
	2.5	2.0	54.0	47.0	650	450	1.00	1.50
Solidity measured on a scale of 1 to 5	3.0	1.0	53.0	43.0	710	310	1.50	1.00
	2.5	3.0	52.0	51.0	640	780	1.00	4.00
	2.5	1.0	54.0	44.0	680	400	2.00	1.50
	2.0	3.0	47.0	51.0	350	820	1.00	3.50
	2.0	1.0	52.0	44.0	480	330	1.00	1.00
Note: The Level of Significance is determined by using Excel 5's 2-tail type 2 built in T-test function directly over the ranges of data.	3.0	3.0	50.0	47.0	760	650	2.00	3.00
	2.0	2.0	51.0	45.0	600	550	1.50	2.00
	2.0	2.0	55.0	48.0	610	540	1.50	1.50
	2.0	1.0	48.5	42.0	480	290	1.00	1.00

9800328

PARAGON SEED COMPANY

P.O. Box 1906 Salinas, Ca. 93902 831-753-2100

Beacon vs Niner

Nature Fresh Farms Wellton, Az. — Harvest date : December 01, 2003

	Beacon	Niner	Beacon	Niner	Beacon	Niner	Beacon	Niner
	Solidity	Solidity	Circum	Circum	Weight	Weight	Core Ht	Core Ht
Count	24	24	24	24	24	24	24	24
Sum	62.0	56.5	1,168.0	1,163.5	13,815.0	13,685.0	37.75	46.25
Mean	2.58	2.35	48.67	48.48	575.63	570.21	1.57	1.93
Maximum Value	3.0	3.0	54.0	53.0	725.0	760.0	2.50	4.00
Minimum Value	2.0	2.0	45.0	46.0	450.0	450.0	1.00	1.00
Variance	0.19	0.18	5.01	3.90	6,411.55	7,544.52	0.15	0.43
Std.Dev	0.43	0.43	2.24	1.98	80.07	86.86	0.39	0.66
Joint Variance	*****	0.19	*****	4.46	*****	6,978.03	*****	0.29
Jt Deg of Freedom	*****	46	*****	46	*****	46	*****	46.00
t-Test Parameter	*****	1.839	*****	0.308	*****	0.225	*****	2.28
Level of Significance	*****	.0724	*****	.7598	*****	.8233	*****	.0276
Confidence Level %	*****	92.761	*****	24.024	*****	17.673	*****	97.24
	1-5	1-5	Cm's	Cm's	Grams	Grams	Inches	Inches
MEASUREMENTS FOR SAMPLES	3.0	2.0	48.0	51.0	600	500	1.50	1.50
	2.5	2.5	48.0	51.0	550	550	1.50	2.00
	3.0	2.0	46.0	48.0	620	480	1.50	2.00
	3.0	2.0	54.0	46.0	700	500	2.00	1.50
Solidity measured on a scale of 1 to 5	2.0	2.0	48.0	49.0	450	540	1.25	1.50
	2.0	3.0	49.0	46.0	500	625	1.50	2.00
	3.0	2.5	47.0	46.5	620	640	2.00	2.00
	3.0	3.0	47.0	46.0	700	650	2.00	2.50
Note: The Level of Significance is determined by using Excel 5's 2-tail type 2 built in T-test function directly over the ranges of data.	3.0	2.0	46.0	51.0	540	550	1.50	2.00
	2.0	2.5	50.0	53.0	460	760	1.00	2.25
	2.0	2.0	50.0	46.0	580	500	2.50	1.00
	3.0	3.0	51.0	48.0	580	760	1.50	2.00
	2.0	2.0	45.0	50.0	450	540	1.50	3.50
	2.0	2.0	47.0	51.0	480	640	1.00	4.00
	3.0	2.0	48.0	48.0	600	480	1.50	1.50
	2.0	3.0	53.0	47.0	600	600	2.00	1.50
	3.0	2.0	52.0	48.0	650	600	1.00	1.50
	2.5	2.0	47.0	50.0	550	450	1.50	1.50
	2.5	2.0	48.0	48.0	600	450	1.50	2.00
	3.0	3.0	50.0	47.0	725	650	2.00	1.50
	2.5	2.5	49.0	48.0	680	540	2.00	1.50
	2.5	2.5	48.0	50.0	500	620	1.00	1.50
	3.0	3.0	50.0	48.0	560	580	1.50	2.00
	2.5	2.0	47.0	47.0	520	480	1.50	2.00

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE DIVISION

EXHIBIT C

OBJECTIVE DESCRIPTION OF VARIETY
LETTUCE *Lactuca sativa*

NAME OF APPLICANT (S): Paragon Seed, Inc.

ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code): 507 Abbott Street, Salinas, California 93901

FOR OFFICIAL USE ONLY

PVPO NUMBER: 9800328

VARIETY NAME: Beacon

EXPERIMENTAL DESIGNATION: AW 84

Place numbers in the boxes for the characters which best describe this variety. Measured data should be the mean of an appropriate number (at least 10) of well spaced plants. Royal Horticultural Society or any recognized color standard may be used to determine plant colors.

The location of the test area is: Yuma, Arizona

Color System Used: Royal Horticultural Society

1. PLANT TYPE: *(See list of suggested check varieties page 4.)*

[0 6]

01=Cutting/Leaf
02=Butterhead
03=Bibb
04=Cos or Romaine
05=Great Lakes Group
06=Vanguard Group
07=Imperial Group
08=Eastern (Ithaca) Group
09=Stem
10=Latin
11=OTHER

2. SEED:

COLOR: [1] 1=White (Silver Gray) 2=Black (Gray Brown) 3=Brown (Amber)

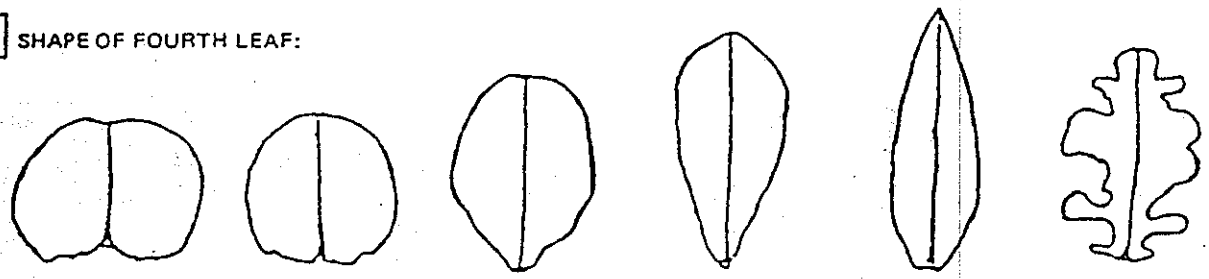
LIGHT DORMANCY: [2] 1=Light Required 2=Light Not Required

HEAT DORMANCY: [1] 1=Susceptible 2=Not Susceptible

3. COTYLEDON TO FOURTH LEAF STAGE: NOTE: Provide a color photograph or photocopy of the fourth leaf from 20 day old seedling grown under optimal conditions.

[2] SHAPE OF COTYLEDONS: 1=Broad 2=Intermediate 3=Spatulate

[3] SHAPE OF FOURTH LEAF:



1 2 3 4 5 6

[1 6] LENGTH/WIDTH INDEX OF FOURTH LEAF: L/W x 10

[3] APICAL MARGIN: [5] BASAL MARGIN: 1=Entire 2=Crenate/Gnawed 3=Finely Dentate 4=Moderately Dentate 5=Coarsely Dentate 6=Incised 7=Lobed 8=OTHER *(specify)*

[3] UNDULATION: 1=Flat 2=Slight 3=Medium 4=Marked

[3] GREEN COLOR: 1=Yellow Green 2=Light Green 3=Medium Green 4=Dark Green 5=Blue Green 6=Silver Green 7=Gray Green

ANTHOCYANIN:

[1] DISTRIBUTION: 1=Absent 2=Margin Only 3=Spotted 4=Throughout 5=OTHER *(specify)*

[0] CONCENTRATION: 1=Light 2=Moderate 3=Intense

[1] ROLLING: 1=Absent 2=Present

[2] CUPPING: 1=Uncupped 2=Slight 3=Markedly

[1] REFLEXING: 1=None 2=Apical Margin 3=Lateral Margins

4. MATURE LEAVES *(observe harvest-mature outer leaves)*:

NOTE: Provide color photo of harvest-mature leaves which accurately shows color and margin characteristics.

9800328

MARGIN:

[2]	INCISION DEPTH: *(deepest penetration of the margin)*	1=Absent/Shallow (Dark Green Boston)	2=Moderate (Vanguard)	3=Deep (Great Lakes 659)
[2]	INDENTATION: *(finest divisions of the margin)*	1=Entire (Dark Green Boston) 2=Shallowly Dentate (Great Lakes 65)	3=Deeply Dentate (Great Lakes 659) 4=Crenate (Vanguard)	5=OTHER *(specify)*
[2]	UNDULATION OF THE APICAL MARGIN:	1=Absent/Slight (Dark Green Boston)	2=Moderate (Vanguard)	3=Strong (Great Lakes 659)
[3]	GREEN COLOR:	1=Very Light Green (Bibb) 2=Light Green (Minetto)	3=Medium Green (Great Lakes) 4=Dark Green (Vanguard)	5=Very Dark Green 6=OTHER

ANTHOCYANIN *(grown at or below 10 C)*:

[1]	DISTRIBUTION:	1=Absent 2=Margin Only (Big Boston)	3=Spotted (Calif. Cream Butter) 4=Throughout (Prize Head)	5=OTHER *(specify)*
[1]	CONCENTRATION:	1=Light (Iceberg)	2=Moderate (Prize Head)	3=Intense (Ruby)
[2]	SIZE:	1=Small	2=Medium	3=Large
[2]	GLOSSINESS:	1=Dull (Vanguard)	2=Moderate (Salinas)	3=Glossy (Great Lakes)
[2]	BLISTERING:	1=Absent/Slight (Salinas)	2=Moderate (Vanguard)	3=Strong (Prize Head)
[2]	LEAF THICKNESS:	1=Thin	2=Intermediate	3=Thick
[1]	TRICHOMES:	1=Absent (smooth)	2=Present (spiny)	

5. PLANT *(at market stage. Choose a comparison variety appropriate for this type.)*:

[4][8] SPREAD OF FRAME LEAVES: cm This Variety [4][6] cm Gabilan *(specify comparison variety)*

[1][5] HEAD DIAMETER *(market trimmed with single cap leaf)*: cm This Variety [1][6] cm Gabilan *(specify comparison variety)*

[3]	HEAD SHAPE:	1=Flattened 2=Slightly Flattened	3=Spherical 4=Elongate	5=Non-Heading 6=OTHER
[2]	HEAD SIZE CLASS:	1=Small	2=Medium	3=Large

[2][4] HEAD COUNT PER CARTON

[7][4][3] HEAD WEIGHT: g This Variety [7][9][0] g Gabilan *(specify comparison variety)*

[4]	HEAD FIRMNESS:	1=Loose 2=Moderate	3=Firm 4=Very Firm

6. BUTT *(bottom of market-trimmed head)*:

[2]	SHAPE:	1=Slightly Concave	2=Flat	3=Rounded
[2]	MIDRIB:	1=Flattened (Salinas)	2=Moderately Raised	3=Prominently Raised (Great Lakes 659)

7. CORE *(stem of market-trimmed head)*:

[3][0] mm Diameter at base of head

[4].[9] Ratio of head diameter/core diameter

[3][8] Core height from base of head to apex: mm This Variety [4][4] mm Gabilan *(specify comparison variety)*

8. BOLTING *(Give First Water Date _____)*: NOTE: First Water Date is the date seed first receives adequate moisture to germinate. This can and often does equal the planting date.

[7][6] Number of days from First Water Date to seed stalk emergence *(summer conditions)*: This Variety [7][2] Gabilan *(specify comparison variety)*

[2]	BOLTING CLASS:	1=Very Slow 2=Slow	3=Medium 4=Rapid	5=Very Rapid

[9][0] Height of mature seed stalk: cm This Variety [8][6] cm Gablian *(specify comparison variety)*

BOLTING cont'd. on next page

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Spread of Bolter Plant *(at widest point)*:

[4][2] cm This Variety [4][1] cm ~~Gabilan~~ *(specify comparison variety)*

[1] BOLTER LEAVES: 1=Straight 2=Curved

[1] MARGIN: 1=Entire 2=Dentate

[2] COLOR: 1=Light Green 2=Medium Green 3=Dark Green

BOLTER HABIT:

[2] TERMINAL INFLORESCENCE: 1=Absent 2=Present

[1] LATERAL SHOOTS: *(above head)* 1=Absent 2=Present

[1] BASAL SIDE SHOOTS: 1=Absent 2=Present

9. MATURITY *(earliness of harvest-mature head formation)*:

NOTE: Complete this section for at least one season.

SEASON	Applic. 1/ #of days	Check 1/ #of days	CHECK VARIETY 2/
Spring	80	80	Gabilan
Summer	68	70	Gabilan
Fall	69	72	Fallgreen
Winter			not adapted

Give planting date(s), and location(s):

Spring plant 02-07-98 harvest 04-29-98 Texas Hill, Arizona

Summer plant 06-20-97 harvest 08-28-97 King City, California

Fall plant 08-20-97 harvest 10-31-97 Huron, California

Winter not adapted

1/ First water date to harvest. 2/ Fill in check variety name on the appropriate line.

10. ADAPTATION:

PRIMARY REGIONS OF ADAPTION *(tested and proven adapted)*: (0=Not tested 1=Not Adapted 2=Adapted)

[2] Southwest *(Calif., Ariz. desert)* [2] West Coast [0] Northeast

[0] Northcentral [0] Southeast [0] OTHER _____

SEASON:

[2] Spring (area Yuma, Az. Huron, Ca.) [2] Fall (area Huron, Ca. Yuma, Az.)

[2] Summer (area King City, Gilroy Ca.) [0] Winter (area _____)

[0] GREENHOUSE: 0=Not tested 1=Not Adapted 2=Adapted

[1] SOIL TYPE: 1=Mineral 2=Organic 3=Both

9800328

11. DISEASES AND STRESS REACTIONS (0=Not tested; 1=Susceptible; 2=Intermediate; 3=Resistant; 4=Highly resistant; 5=Tolerant):

VIRUS

- [1] Big Vein
- [1] Lettuce Mosaic
- [0] Cucumber Mosaic
- [0] Broad Bean Wilt
- [0] Turnip Mosaic
- [0] Beet Western Yellows
- [0] Lett. Infectious Yellows
- [ ] Other Virus _____

FUNGAL/BACTERIAL

- [1] Corky Root Rot (Pythium Root Rot)
- [0] Downy Mildew (Races _____)
- [0] Powdery Mildew
- [1] Sclerotinia Rot
- [1] Bacterial Soft Rot (Pseudomonas spp. & others)
- [0] Botrytis (Gray Mold)
- [0] OTHER _____

INSECTS

- [0] Cabbage Loopers
- [1] Root Aphids
- [1] Green Peach Aphid
- [0] Other Insect _____

PHYSIOLOGICAL/STRESS

- [4] Tipburn
- [3] Heat
- [0] Drought
- [0] Cold
- [0] Salt
- [1] Brown Rib (Rib Discoloration, Rib Blight)
- [ ] OTHER _____

POST HARVEST

- [1] Pink Rib
- [1] Russet Spotting
- [3] Rusty Brown Discoloration
- [0] Internal Rib Necrosis (Blackheart, Gray Rib, Gray Streak)
- [0] Brown Stain

12. BIOCHEMICAL OR ELECTROPHORETIC MARKERS:

13. COMMENTS:

SUGGESTED CHECK VARIETIES

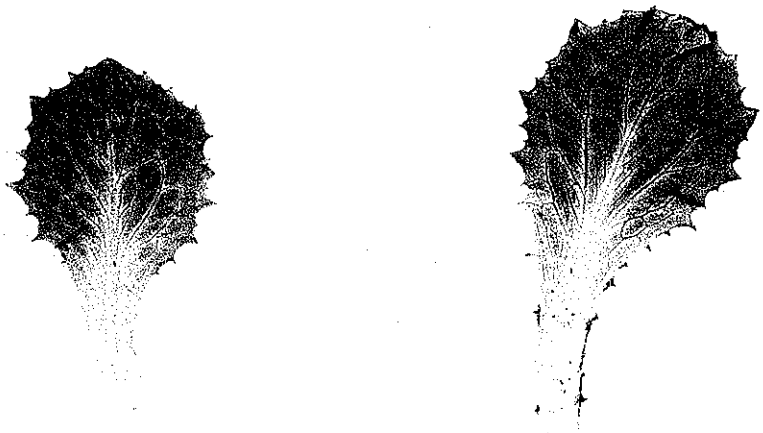
TYPE	CHECK VARIETY
1) CUTTING/LEAF	SALAD BOWL
2) BUTTERHEAD	DARK GREEN BOSTON
3) BIBB	BIBB
4) COS, OR ROMAINE	PARRIS ISLAND
5) GREAT LAKES GROUP	GREAT LAKES 659-700
6) VANGUARD GROUP	VANGUARD
7) IMPERIAL GROUP	VIVA
8) EASTERN GROUP	ITHACA
9) STEM	CELTUCE
10) LATIN	MATCHLESS

21

Paragon Seed, Inc.

Beacon

PVP # 9800328



Beacon Lighthouse

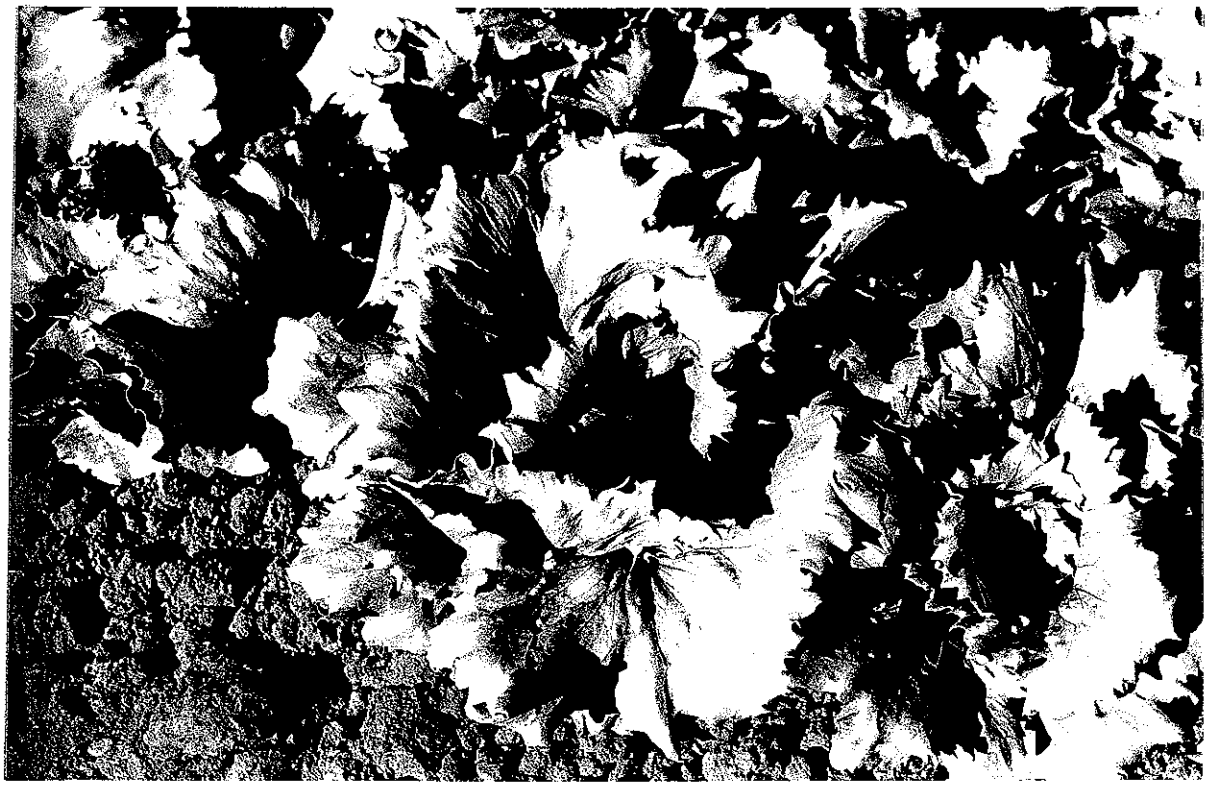
Photocopy of the fourth leaf from a 20 day old plant grown undew optimal conditions.

9800328

Paragon Seed , Inc. Huron, Ca. 10/98

Exhibit C Photograph of Leaf Margin

Beacon Mature head



Beacon rosette stage

Attachments Exhibit D Additional Information for the Variety

Page

1 Cross section diagram of a lettuce head indicating position of Head, Wrapper Leaf, Core height, and Core Diameter.

2 Photograph and description of Solidity Scoring System

3 Copy of PVP Office showing PVP # 9500172, Niner, was abandoned by Seminis Vegetable Seeds, Inc.

4 October, 2003 Huron, California
Frame size differences between Beacon and Lighthouse. At large rosette stage, frame size of Lighthouse is larger than Beacon.

5 October, 2003 Huron, California
Beacon leaf color is slightly darker green than Niner. Niner has slightly more yellow color in the leaf. Using the Royal Horticultural Society Colour Chart, the following observations were made:

Beacon	139A
Niner	141A
Lighthouse	141B

6 October, 2003 Huron, California
Example of using the Royal Horticultural Colour Charts to determine leaf color.

7 October, 2003 Huron, California
Cross section photo of Beacon and Niner. Niner core height is higher than Beacon.

8 October, 2003 Huron, California
Note larger frame of Niner variety. Leaf color of Niner is lighter green in color. Beacon leaf shows greater reflectance, more similar to vanguard varieties vs. lighter green of Great Lakes types.

9 October, 2003 Huron, California
Photograph showing color and reflectance differences between Niner and Beacon.

10 October, 2003 Huron, California
Photograph showing heads of lettuce variety 'Raider'.

11 October, 2003 Yuma, Arizona
Approximately two weeks from harvest, Lighthouse has formed heads, whereas, Niner is not forming heads.

12 October, 2003 Yuma, Arizona
Beacon and Lighthouse showing strong heading characteristic approximately two weeks prior to harvest.

13 October, 2003 Yuma, Arizona
Photograph of Lighthouse and Beacon approximately two weeks from harvest.

14 October, 2003 Yuma, Arizona
Lighthouse and Gabilan approximately two weeks from harvest. Note larger frame of Lighthouse. Gabilan is forming heads, however, heads tend to be marginal in size, side ribs tend to be thin and fragile. Gabilan is not adapted to this harvest slot.

15 October, 2003 Yuma, Arizona
Photograph of Gabilan and Niner. Note leaf margin "frill" of Niner, lack of heading, and lighter green color.

16 October, 2003 Yuma, Arizona
Photograph of Beacon, Lighthouse, Gabilan, and Niner. Note leaf margin "frill" of Niner, and smoother leaf surface of Gabilan, Beacon, and Lighthouse.

17 November, 2003 Yuma, Arizona
Note color difference between Beacon (RHS 139A) vs. Lighthouse (RHS 141B) vs. Niner (RHS 141A).

18 November, 2003 Yuma, Arizona
Photograph showing Niner leaf color and reflectance more like Great Lakes varieties vs. Beacon and Gabilan more similar to Vanguard varieties.

19 November, 2003 Yuma, Arizona
Photograph at harvest time showing Beacon heading and Niner non-heading.

20 November, 2003 Wellton, Arizona
Photograph showing intermediate head size of Gabilan, poor head protection and twisting of midribs. Niner is showing an open, leafy plant, which is characteristic of non-heading due to heat; Niner is not adapted to this harvest period. Lighthouse is showing a large frame with large heads, good head protection vs. a smaller Gabilan with exposed heads and prominent side ribs.

21 November, 2003 Wellton, Arizona
Photograph of Beacon and Lighthouse at harvest maturity.
Measurements show slightly larger head size for Beacon over Lighthouse (51.2 cm. vs. 50.7 cm.). Beacon has a lower core height than Lighthouse (1.29 in. vs. 1.88 in.). Lighthouse is slightly earlier maturing than Beacon using the solidity index (2.92 vs. 2.46) with heavier heads (704 g. vs. 590 g.)

22 November, 2003 Wellton, Arizona
Measurements Beacon vs. Lighthouse

23 November, 2003 Wellton, Arizona
Measurements Beacon vs. Gabilan

24 November, 2003 Wellton, Arizona
Measurements Beacon vs. Niner

25 November 21, 2003 Wellton, Arizona

Top photograph: Large bushy frame of Niner vs. smaller frame of Gabilan
Bottom photograph: Large frame of Lighthouse vs. medium frame of Beacon

26 November 21, 2003 Wellton, Arizona
Niner showing large, bushy frame with slightly savoyed leaf surface. Beacon leaf smooth, heads forming from a whorl. Note two different styles of heading.

27 November 21, 2003 Wellton, Arizona
Gabilan and Beacon showing a similar style of heading from a whorl. Beacon is best adapted to fall harvest in the desert southwest, whereas, Gabilan is best adapted to late spring harvest.

28 November 21, 2003 Wellton, Arizona
Top photograph: Large bushy frame of Niner vs. medium frame and heading in Beacon.
Bottom photograph: Note frame size differences between Beacon, Lighthouse, Niner, and Gabilan.

29 December, 2003 Wellton, Arizona
Photograph showing differences in leaf color, reflectance, and smoothness between Beacon and Gabilan at harvest maturity.

30 December, 2003 Wellton
Photograph at harvest maturity showing leaf differences between Lighthouse, Beacon, and Niner.

31 December 01, 2003 Wellton, Arizona
Measurements Beacon vs. Gabilan

32 December 10, 2003 Wellton, Arizona
Measurements Beacon vs. Niner

Plant Variety Protection Number: 9500172

Variety: Niner
Experimental name or Synonym: XP 12075
Taxon: Lactuca sativa L.
Crop: Lettuce
Applicant: Seminis Vegetable Seeds, Inc.
Date filed: 05/03/1995
Status: Application Abandoned
Status date: 10/06/1997

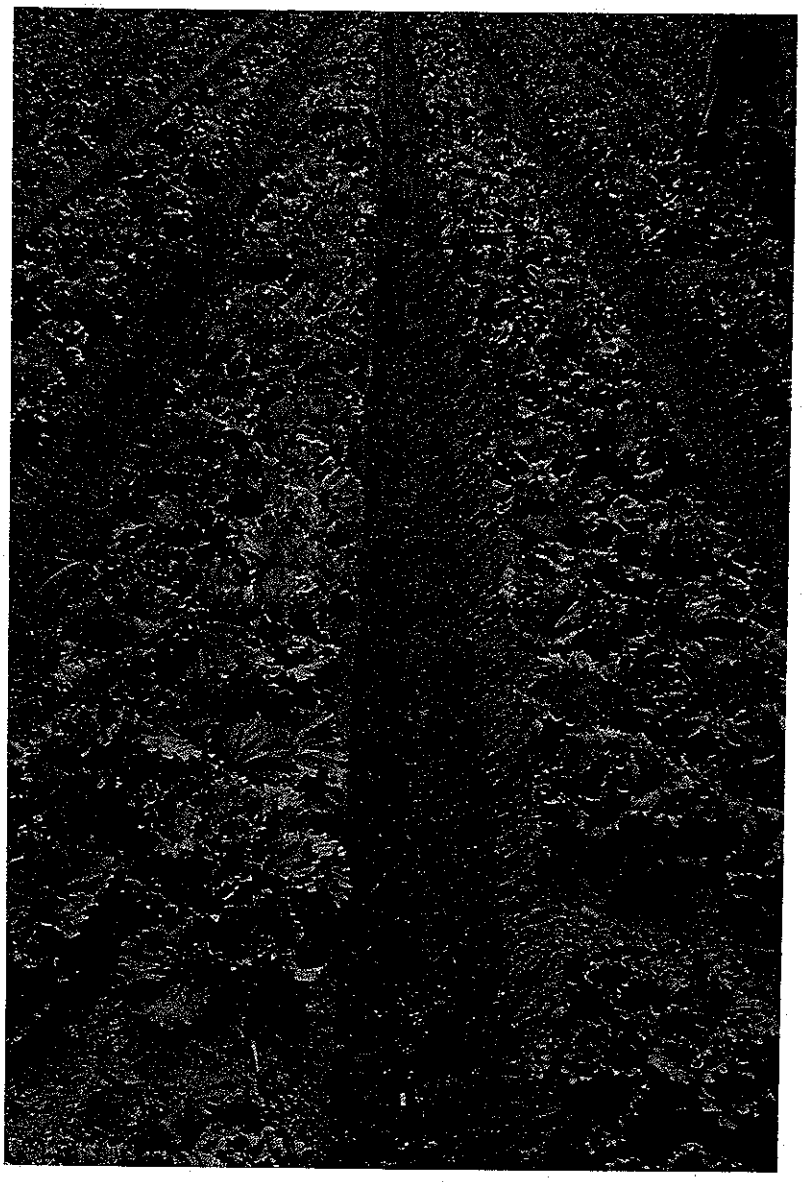
Show GRIN Data

Plant Variety Protection Office
USDA-AMS, Beltsville, MD
Home Page

9800328

Paragon Seed, Inc.
Huron, California
October, 2003

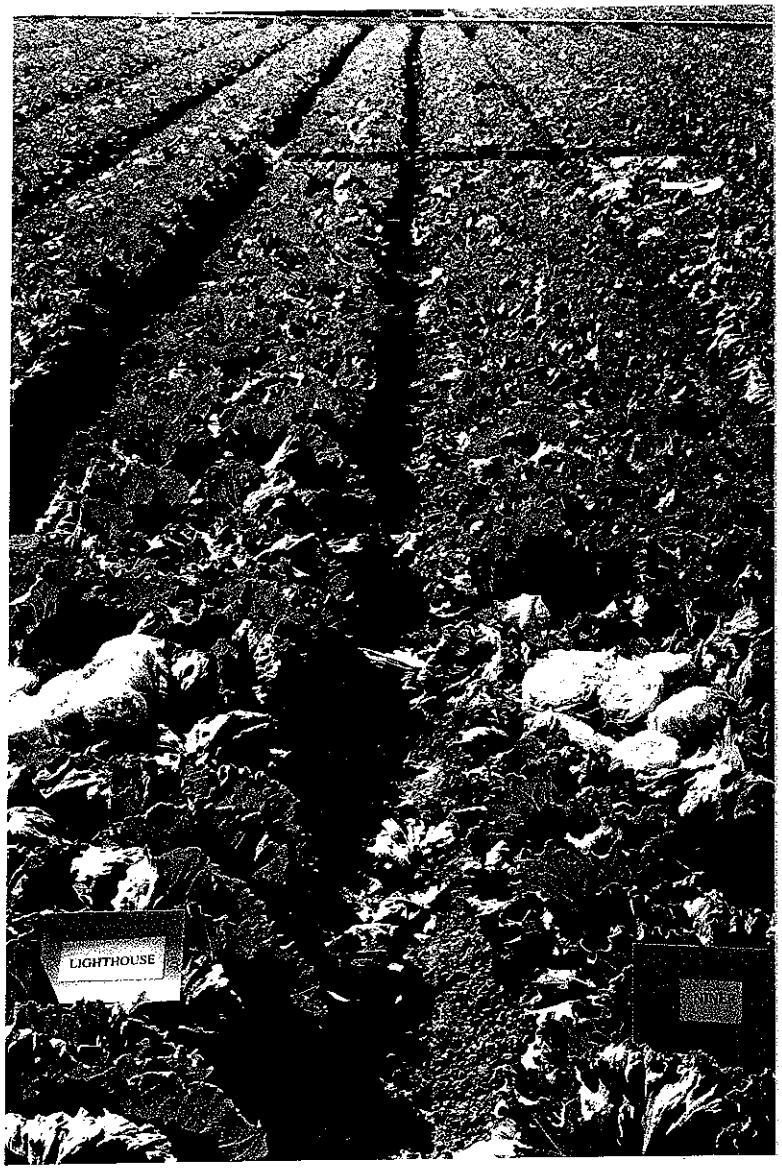
9800328



LIGHTHOUSE **BEACON**

28

Paragon Seed, Inc. **Huron, California** **October, 2003**



LIGHTHOUSE NINER

NINER BEACON

9800328

Paragon Seed, Inc. **Huron, California** **October, 2003**

LIGHTHOUSE NINER BEACON

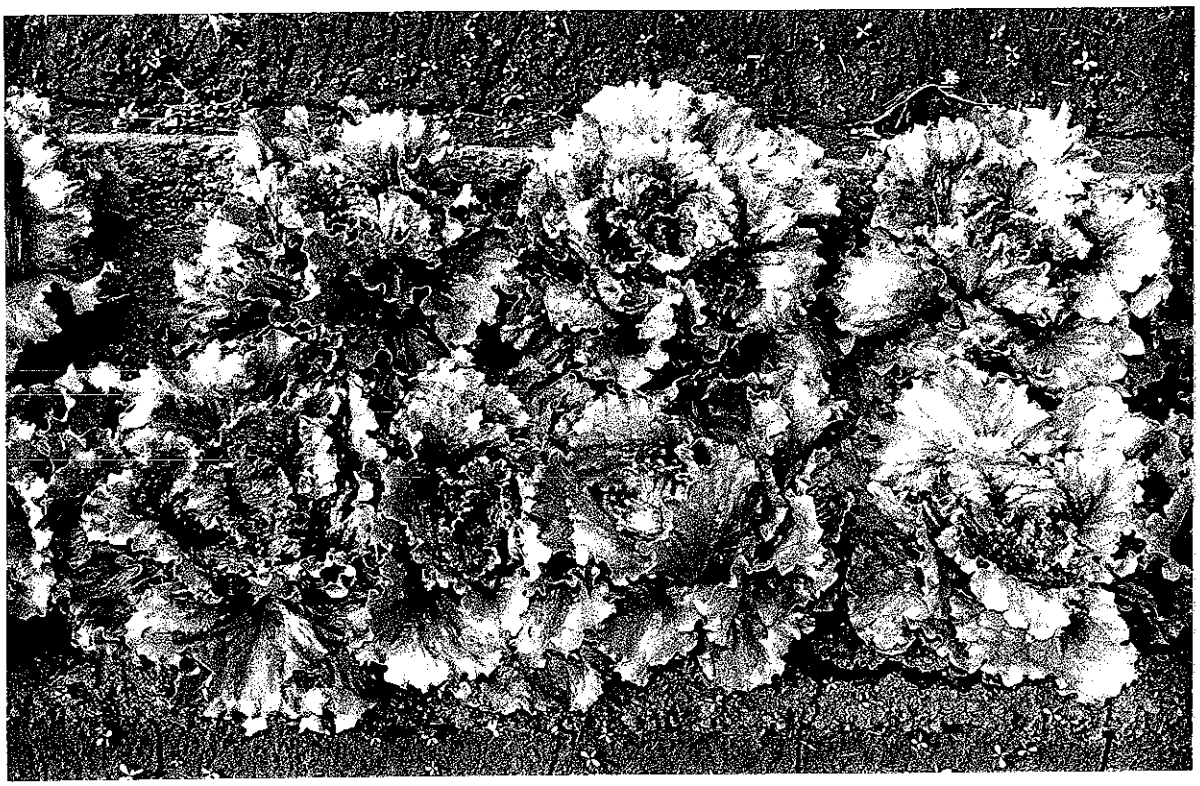
30

Paragon Seed, Inc. **Huron, California** **October, 2003**

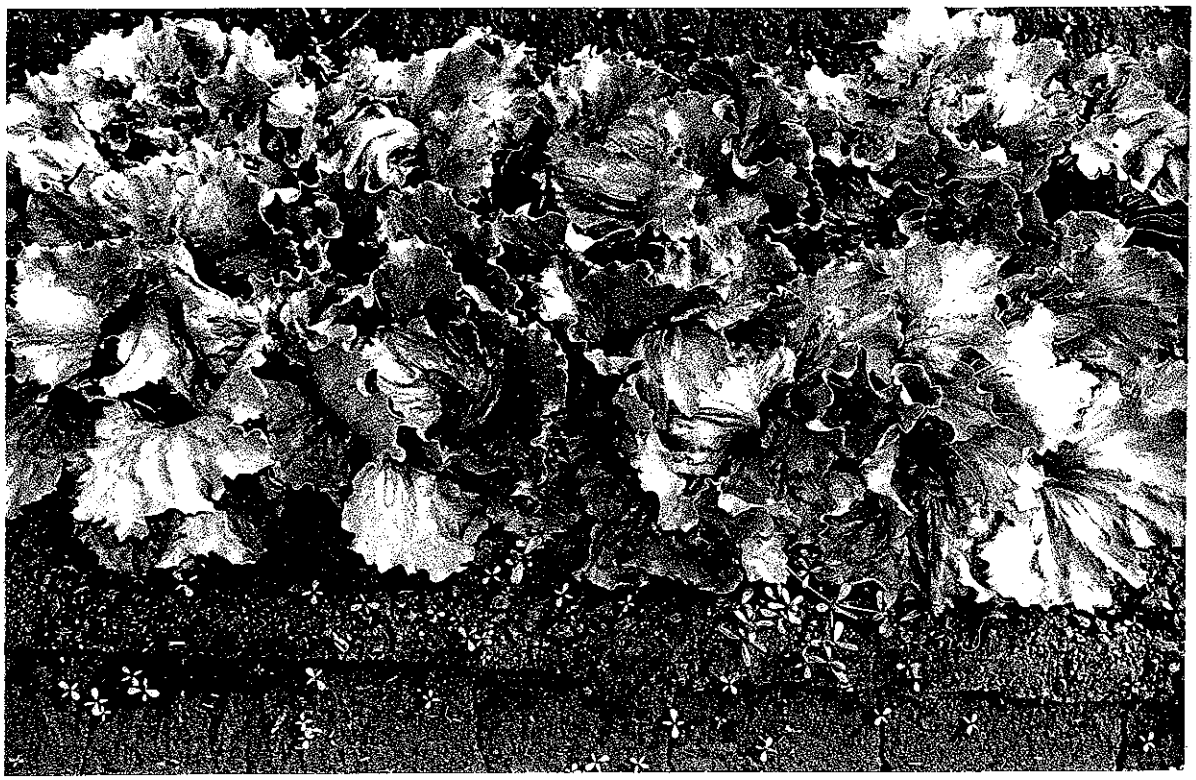
RAIDER

RAIDER

Paragon Seed, Inc. **Yuma , Arizona** **October, 2003**



NINER



LIGHTHOUSE

Paragon Seed, Inc. **Yuma , Arizona** **October, 2003**

GABILAN

BEACON

BEACON LIGHTHOUSE

LIGHTHOUSE GABILAN

Paragon Seed, Inc. **Yuma , Arizona** **October, 2003**

GABILAN NINER

980032

Paragon Seed, Inc. **Yuma , Arizona** **October, 2003**

BEACON LIGHTHOUSE GABILAN NINER

Field (raider) NINER GABILAN LIGHTHOUSE BEACON

1 2 3 4

Paragon Seed, Inc. Yuma, Arizona November, 2003

BEACON LIGHTHOUSE

BEACON NINER GABILAN

Paragon Seed, Inc. Yuma, Arizona November, 2003

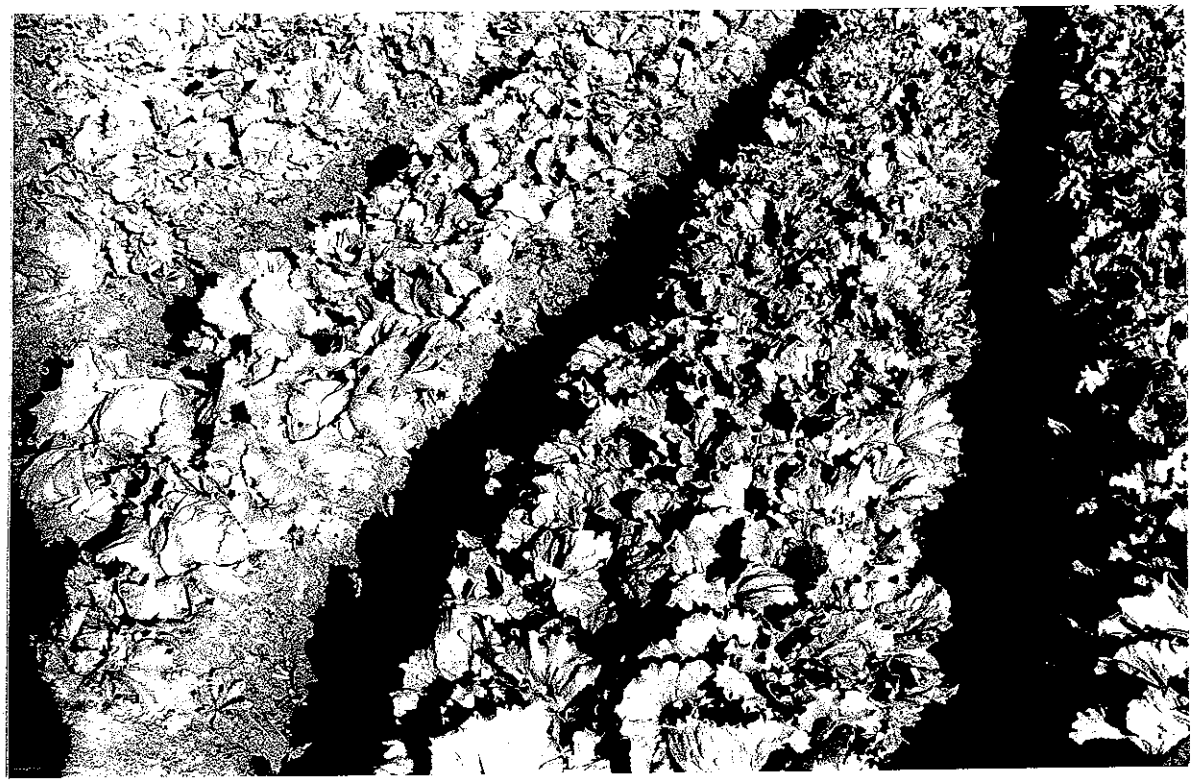
Gabilan **Niner** (frill leaf, low reflectance)

Niner **Beacon**

Paragon Seed, Inc. **Yuma, Arizona** **November, 2003**

LIGHTHOUSE **BEACON** **NINER**

Paragon Seed, Inc. **Wellton , Arizona** **November, 2003** **Brosey Ranch**



GABILAN NINER

LIGHTHOUSE GABILAN

98003

Paragon Seed, Inc. Wellton , Arizona November, 2003 Brosey Ranch

BEACON LIGHTHOUSE

9800328

PARAGON SEED COMPANY

P.O. Box 1906 Salinas, Ca. 93902 831-753-2100

Beacon vs Lighthouse

Brosey Ranch Wellton, Arizona — Harvest date: November 21, 2003

	Beacon	Light house	Beacon	Light house	Beacon	Light house	Beacon	Light house
	Solidity	Solidity	Circum	Circum	Weight	Weight	Core Ht	Core Ht
Count	12	12	12	12	12	12	12	12
Sum	29.5	35.0	615.0	608.5	7,080.0	8,450.0	15.50	22.50
Mean	2.46	2.92	51.25	50.71	590.00	704.17	1.29	1.88
Maximum Value	3.0	3.5	55.0	55.0	760.0	1,000.0	2.00	3.00
Minimum Value	2.0	2.0	47.0	47.0	350.0	460.0	1.00	1.00
Variance	0.20	0.22	6.25	4.52	12,945.45	25,608.33	0.16	0.41
Std.Dev	0.45	0.47	2.50	2.13	113.78	160.03	0.40	0.64
Joint Variance	*****	0.21	*****	5.39	*****	19,276.89	*****	0.29
Jt Deg of Freedom	*****	22	*****	22	*****	22	*****	22.00
t-Test Parameter	*****	2.443	*****	0.572	*****	2.014	*****	2.67
Level of Significance	*****	.0231	*****	.5733	*****	.0564	*****	.0139
Confidence Level %	*****	97.695	*****	42.671	*****	94.362	*****	98.61
	1-5	1-5	Cm's	Cm's	Grams	Grams	Inches	Inches
MEASUREMENTS FOR SAMPLES	3.0	3.0	49.5	51.0	540	720	1.00	1.00
	3.0	3.0	49.0	49.0	580	640	1.00	1.50
	2.5	2.0	54.0	53.0	650	550	1.00	1.50
	3.0	3.0	53.0	50.5	710	820	1.50	2.00
Solidity measured on a scale of 1 to 5	2.5	3.5	52.0	49.5	640	900	1.00	2.00
	2.5	3.0	54.0	49.5	680	760	2.00	2.00
	2.0	3.0	47.0	51.0	350	800	1.00	3.00
	2.0	2.0	52.0	47.0	480	460	1.00	1.50
Note:	3.0	3.0	50.0	53.0	760	680	2.00	2.00
The Level of Significance is determined by using Excel 5's 2-tail type 2 built in T-test function directly over the ranges of data.	2.0	3.5	51.0	55.0	600	1,000	1.50	3.00
	2.0	3.0	55.0	50.0	610	550	1.50	2.00
	2.0	3.0	48.5	50.0	480	570	1.00	1.00

9800328

PARAGON SEED COMPANY

P.O. Box 1906 Salinas, Ca. 93902 831-753-2100

Beacon vs Gabilan

Brosey Ranch Wellton, Arizona **Harvest date: November 21, 2003**

	Beacon	Gabilan	Beacon	Gabilan	Beacon	Gabilan	Beacon	Gabilan
	Solidity	Solidity	Circum	Circum	Weight	Weight	Core Ht	Core Ht
Count	12	12	12	12	12	12	12	12
Sum	29.5	32.5	615.0	602.0	7,080.0	7,840.0	15.50	18.00
Mean	2.46	2.71	51.25	50.17	590.00	653.33	1.29	1.50
Maximum Value	3.0	3.0	55.0	55.0	760.0	860.0	2.00	2.00
Minimum Value	2.0	2.0	47.0	46.0	350.0	480.0	1.00	1.00
Variance	0.20	0.20	6.25	7.42	12,945.45	9,751.52	0.16	0.09
Std.Dev	0.45	0.45	2.50	2.72	113.78	98.75	0.40	0.30
Joint Variance	*****	0.20	*****	6.84	*****	11,348.48	*****	0.12
Jt Deg of Freedom	*****	22	*****	22	*****	22	*****	22.00
t-Test Parameter	*****	1.360	*****	1.015	*****	1.456	*****	1.45
Level of Significance	*****	.1875	*****	.3212	*****	.1594	*****	.1615
Confidence Level %	*****	81.249	*****	67.879	*****	84.056	*****	83.85
	1-5	1-5	Cm's	Cm's	Grams	Grams	Inches	Inches
MEASUREMENTS FOR SAMPLES	3.0	3.0	49.5	49.0	540	670	1.00	1.50
	3.0	2.0	49.0	48.0	580	480	1.00	2.00
	2.5	2.5	54.0	49.0	650	620	1.00	1.50
	3.0	3.0	53.0	52.0	710	680	1.50	1.00
Solidity measured on a scale of 1 to 5	2.5	3.0	52.0	53.0	640	860	1.00	1.50
	2.5	3.0	54.0	49.0	680	700	2.00	2.00
	2.0	3.0	47.0	50.0	350	600	1.00	1.00
	2.0	3.0	52.0	49.0	480	700	1.00	1.50
Note: The Level of Significance is determined by using Excel 5's 2-tail type 2 built in T-test function directly over the ranges of data.	3.0	3.0	50.0	54.0	760	750	2.00	1.50
	2.0	3.0	51.0	46.0	600	640	1.50	1.50
	2.0	2.0	55.0	48.0	610	600	1.50	1.50
	2.0	2.0	48.5	55.0	480	540	1.00	1.50

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Paragon Seed, Inc. Wellton , Arizona November 21 , 2003

NINER GABILAN

LIGHTHOUSE BEACON

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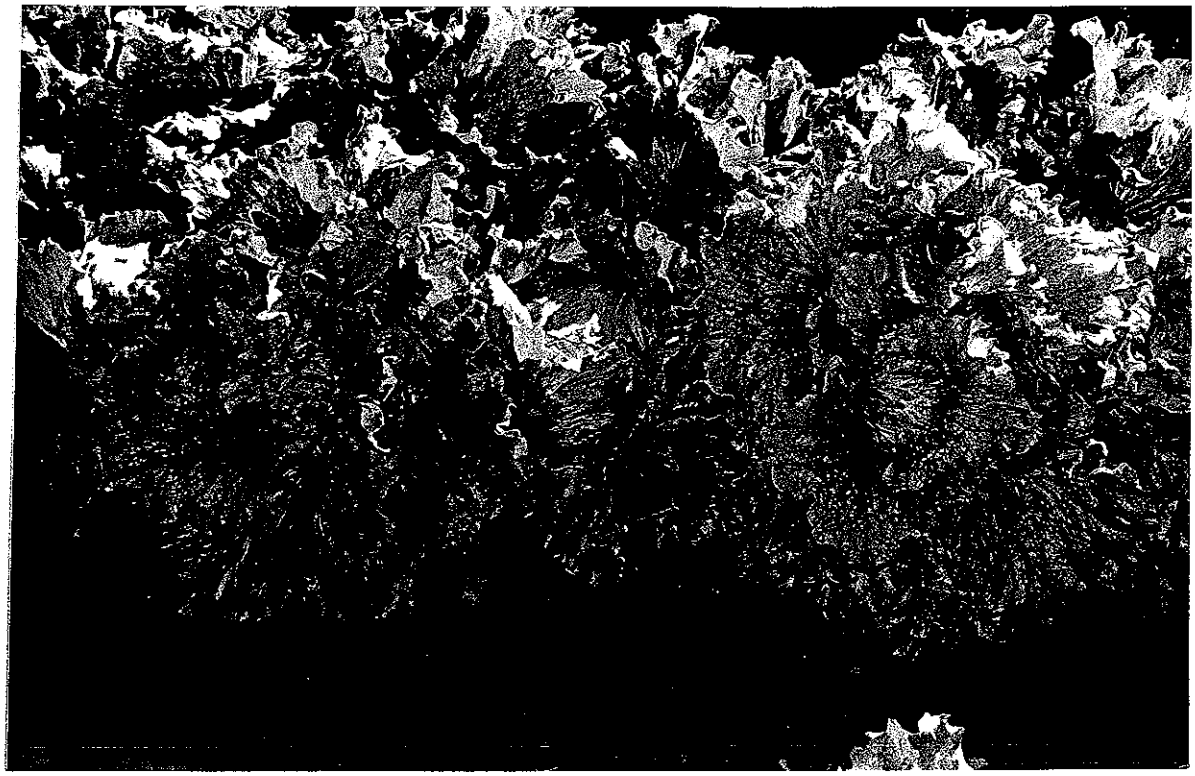
Paragon Seed, Inc. Wellton , Arizona November 21 , 2003



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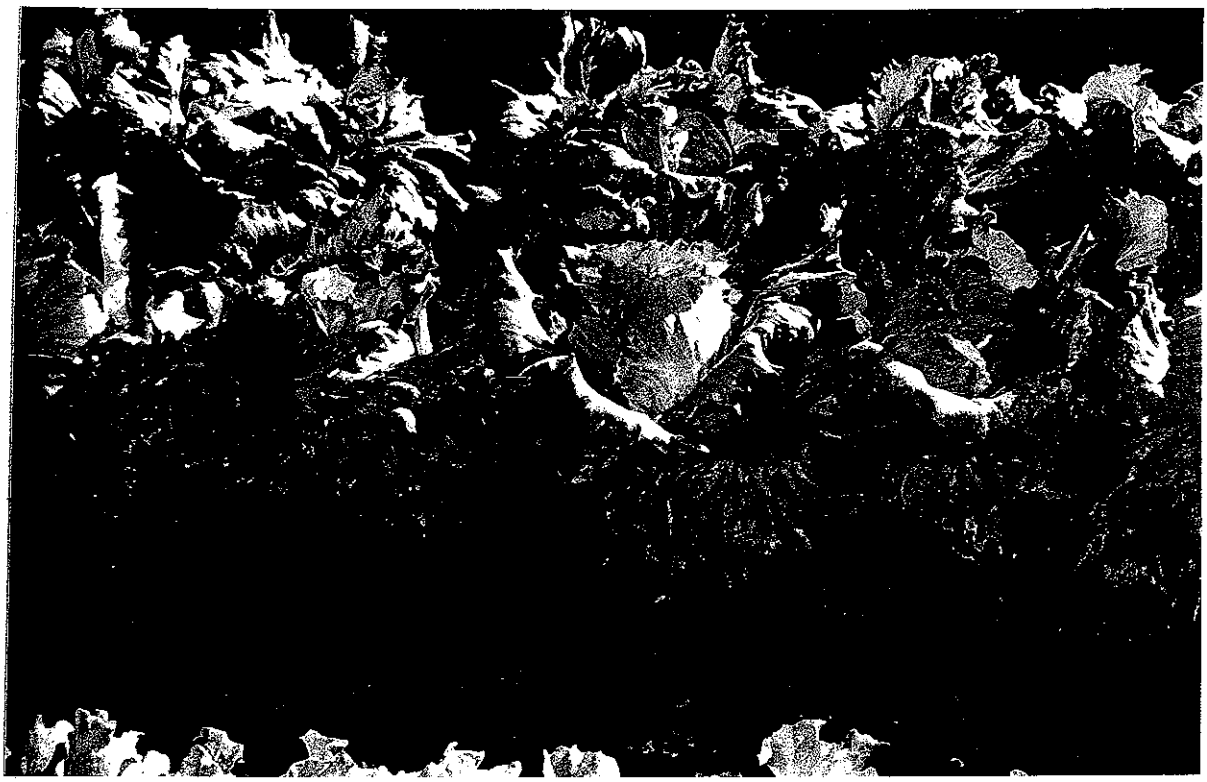
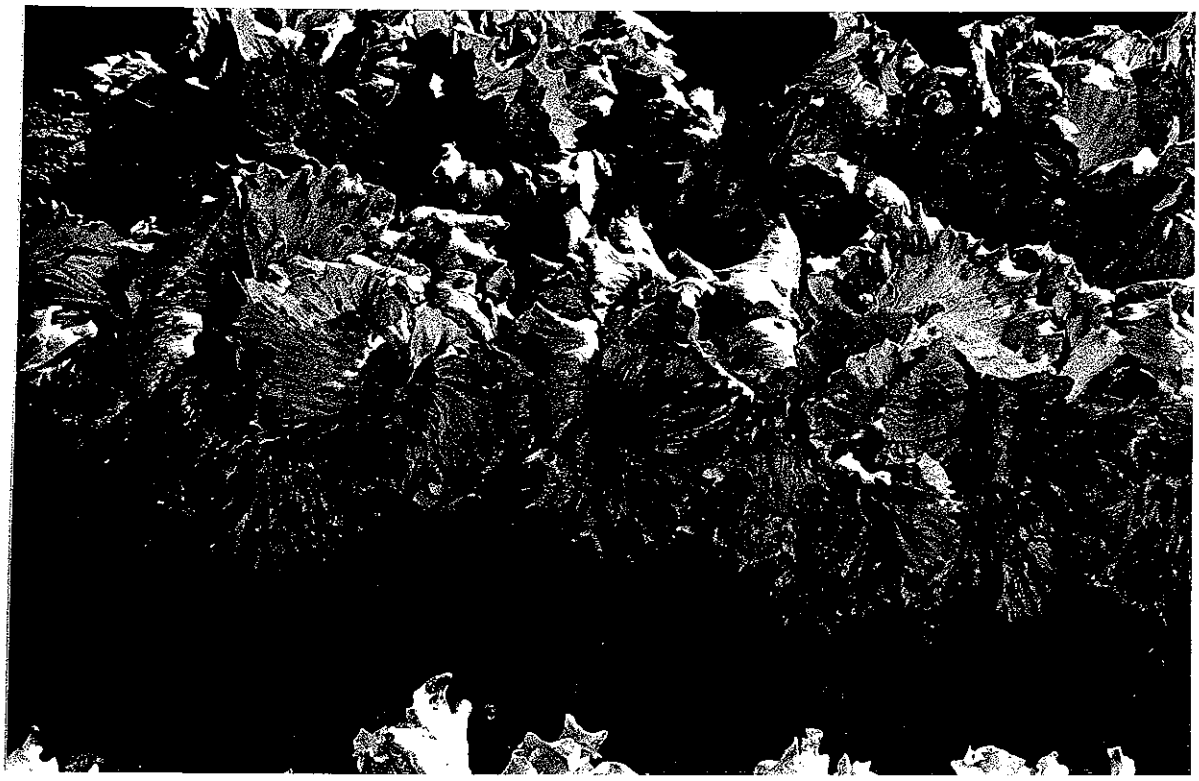


BEACON

Paragon Seed, Inc. Wellton , Arizona November 21 , 2003



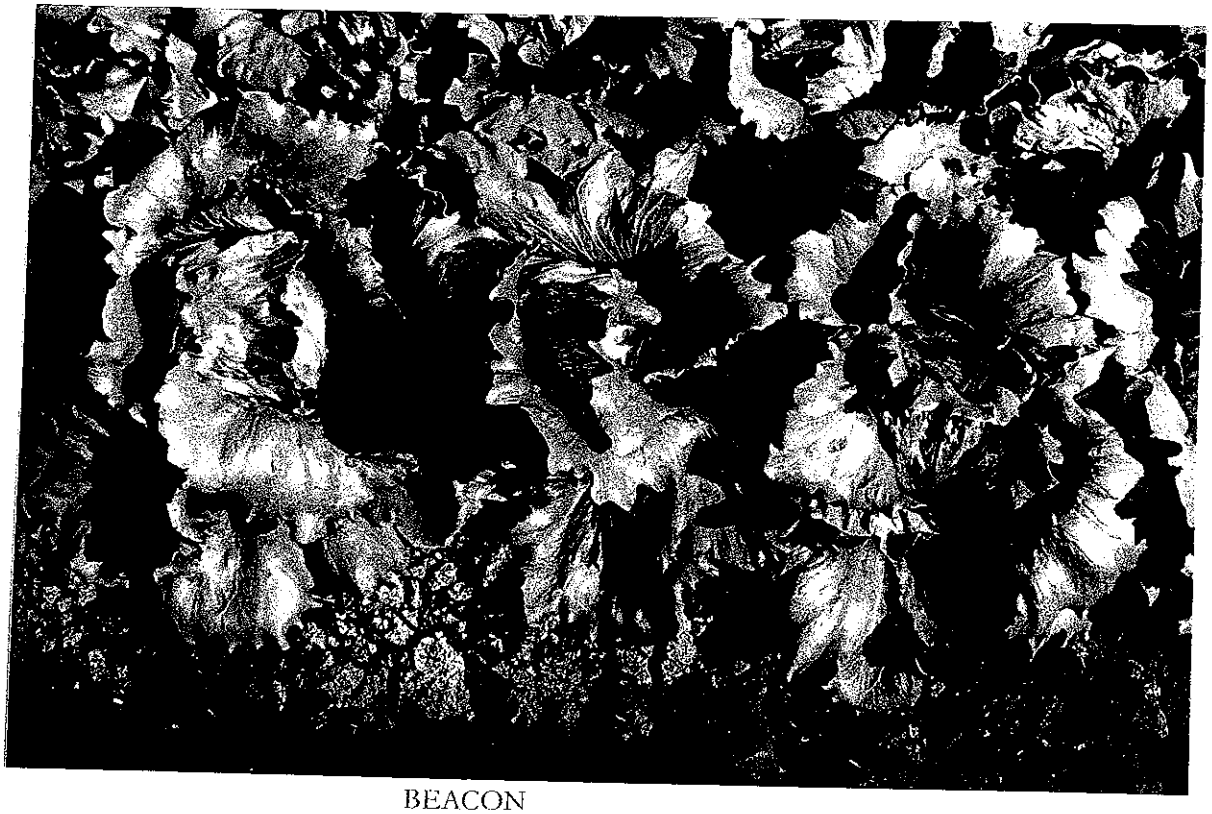
GABILAN

BEACON

Paragon Seed, Inc. Wellton , Arizona November 21 , 2003

NINER BEACON

GABILAN NINER BEACON LIGHTHOUSE



BEACON

GABILAN

LIGHTHOUSE BEACON NINER

PARAGON SEED COMPANY

P.O. Box 1906 Salinas, Ca. 93902 831-753-2100

Beacon vs Gabilan

Nature Fresh Farms Wellton, Az. — **Harvest date : December 01, 2003**

	Beacon	Gabilan	Beacon	Gabilan	Beacon	Gabilan	Beacon	Gabilan
	Solidity	Solidity	Circum	Circum	Weight	Weight	Core Ht	Core Ht
Count	24	24	24	24	24	24	24	24
Sum	62.0	71.5	1,168.0	1,184.0	13,815.0	16,740.0	37.75	54.75
Mean	2.58	2.98	48.67	49.33	575.63	697.50	1.57	2.28
Maximum Value	3.0	4.0	54.0	55.0	725.0	1,000.0	2.50	3.00
Minimum Value	2.0	2.0	45.0	44.0	450.0	480.0	1.00	1.00
Variance	0.19	0.21	5.01	9.36	6,411.55	17,341.30	0.15	0.33
Std.Dev	0.43	0.45	2.24	3.06	80.07	131.69	0.39	0.58
Joint Variance	*****	0.20	*****	7.19	*****	11,876.43	*****	0.24
Jt Deg of Freedom	*****	46	*****	46	*****	46	*****	46.00
t-Test Parameter	*****	3.088	*****	0.861	*****	3.874	*****	5.00
Level of Significance	*****	.0034	*****	.3935	*****	.0003	*****	.0000
Confidence Level %	*****	99.658	*****	60.649	*****	99.966	*****	100.00
	1-5	1-5	Cm's	Cm's	Grams	Grams	Inches	Inches
MEASUREMENTS FOR SAMPLES	3.0	3.0	48.0	51.0	600	700	1.50	2.50
	2.5	3.0	48.0	47.0	550	600	1.50	2.00
	3.0	3.0	46.0	45.0	620	550	1.50	1.50
	3.0	3.0	54.0	48.0	700	600	2.00	2.75
Solidity measured on a scale of 1 to 5	2.0	3.0	48.0	50.0	450	650	1.25	2.00
	2.0	3.0	49.0	50.0	500	860	1.50	2.00
	3.0	2.5	47.0	44.0	620	580	2.00	2.00
	3.0	3.0	47.0	51.0	700	760	2.00	3.00
Note: The Level of Significance is determined by using Excel 5's 2-tail type 2 built in T-test function directly over the ranges of data.	3.0	3.0	46.0	48.0	540	600	1.50	2.00
	2.0	2.5	50.0	52.0	460	640	1.00	2.00
	2.0	3.0	50.0	47.0	580	660	2.50	1.00
	3.0	3.0	51.0	53.0	580	800	1.50	2.50
	2.0	3.0	45.0	48.0	450	740	1.50	3.00
	2.0	3.0	47.0	48.0	480	500	1.00	1.50
	3.0	4.0	48.0	46.0	600	680	1.50	2.00
	2.0	2.0	53.0	44.0	600	480	2.00	1.50
	3.0	3.0	52.0	53.0	650	900	1.00	3.00
	2.5	3.0	47.0	50.0	550	700	1.50	3.00
	2.5	4.0	48.0	53.0	600	1,000	1.50	3.00
	3.0	2.0	50.0	54.0	725	740	2.00	2.00
	2.5	3.0	49.0	55.0	680	940	2.00	2.50
	2.5	3.0	48.0	48.0	500	640	1.00	2.50
	3.0	3.5	50.0	50.0	560	740	1.50	3.00
	2.5	3.0	47.0	49.0	520	680	1.50	2.50

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U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME
Paragon Seed, Inc.	AW84	Beacon

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP, and Country)*	5. TELEPHONE *(include area code)*	6. FAX *(include area code)*
507 Abbott Street Salinas, California 93901	831-753-2100	831-753-1470
	7. PVPO NUMBER 9800328	

8. Does the applicant own all rights to the variety? *Mark an "X" in appropriate block.* **If no, please explain.** [X] YES [ ] NO

9. Is the applicant (individual or company) a U.S. national or U.S. based company? [X] YES [ ] NO
If no, give name of country

10. Is the applicant the original owner? [X] YES [ ] NO ***If no, please answer one of the following:***

a. If original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. national(s)?
[ ] YES [ ] NO **If no, give name of country**

b. If original rights to variety were owned by a company(ies), is(are) the original owner(s) a U.S. based company?
[ ] YES [ ] NO **If no, give name of country**

11. Additional explanation on ownership *(if needed, use reverse for extra space)*:

PLEASE NOTE:

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.

2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.

3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.